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| **Lesson Plan** | | Subject: Science | | Grade: k-2 | Day(s) # 1 | |
| **Standards:**  Kindergarten - LE 1.1a, LE 1.2a, LE 4.1g, LE 4.2a  Identify the basic needs of organisms to live and thrive:  • Needs of animals to live and thrive  (e.g., air, water, food, shelter)  2nd Grade - LE 1.1b  Describe the basic needs of plants:  • Light, air, water, soil (nutrients)  **Lesson Focus Questions & Objective(s):**  Students will understand that water is a very limited and valuable resource that needs to be conserved and used responsibly. | | | | Students will engage in:   * Independent practice * Small group work * Project work * Other: | * Partner work * Whole group * Centers | |
| **Time** | **Lesson Progression** | | **What are students doing?/What are teachers doing? (How will learning be differentiated, scaffolded, etc.?)** | | | **Materials** |
| 5 min. | **Class Starter: (Question, discussion, warm-up, etc)**  Students will be called to the rug. Students will be shown a globe or map and asked what it is. Ask what the blue or green on the globe/map represents. Explain that the blue represents surface water. | | Students will discuss what a map represents and what the different parts of it are. | | | Globe or map |
| 10 min. | **Review/ Connections to prior knowledge:**  **Questions to ask:**  Ask the students if they know which kinds of water bodies are salt water and which are freshwater. Have they ever tasted salt water? Was it good?  Ask the students if they think there is more water or land on the globe. Is there water beneath the surface of the ground that we cannot see on the globe? | | **Introductory discussion:**  Students will discuss freshwater vs. salt water and different bodies of water.  Student responses can be recorded on chart paper of a smartboard. | | | SmartBoard  Chart paper |
| 15 min. | **Direct Instruction/Whole Group Learning Activity:**  ***- Demonstrating With Ziti***  **1.** Spread the ziti out on a table. Explain that there are 100 ziti pieces that represents all (100%) of the water in the world.  **2.** Using the concept of percentages, ask the students if they know what the red and green zitis represent. See if they can estimate percentages. Explain that the two green zitis represent water that is stored as ice in glaciers and at the poles (2%). The lone­ly red ziti represents the fresh water that is available for plants, animals, and people (1% of all the water on the earth).  Ask the students what the remaining blue zitis represent. They represent the water that’s in the ocean, 97% of all the water on earth.  **Questions to ask:**  3. Ask the students what we should do to take good care of the water we use in our homes and businesses.  *Use only what we need.* | | Students will be discussing the prompted questions as well as looking at the ziti as a visual representation of the concept of water as a limited resource. | | | Color dyed ziti |
| 10 min. | **Potential Independent/Group Practice (Activity):**  Students will be asked to do an activity that demonstrates their understanding of the ratio of usable to unusable water on Earth. | | **Task 1 (Struggling):**  Ask students to draw a picture of the ziti and what each ziti represents.  **Task 2 (On-Target):**  1. Distribute graph paper.  2. Ask students to create a bar graph that shows 97% ocean, 2% ice caps and glaciers, and 1% fresh water.  **Task 3 (Advanced):**  1. Distribute pre-drawn circles.  2. Ask students to make pie slices in the circle that represent 97% ocean, 2% glaciers and ice, and 1% fresh water. Color and label the water pie. | | | Color dyed ziti  Graph paper  Pre-drawn circles |
| 5  min. | **Closure: End share/Discusssion**  **Questions to ask:**  *1. Why isn’t all fresh water usable?*  Some is not easy to get at; it may be frozen or trapped in unyielding soils or bedrock frac­tures. Some water is too polluted to use.  2. *Why do we need to take care of the surface water/groundwater?*  Water is very important for humans, plants/crops, and animals. If we waste water or pollute it, we may find that there is less and less of it available for us to use. | | Students share their responses. Document the information on chart paper or the Smartboard. | | | Chart paper  smartboard |
| **Homework assigned:** Students are asked to explain why it is important to be responsible with water to a family member or friend. They will be asked to write their friend of family member’s response. | | | | | |  |

Adapted from: <http://www.epa.gov/region1/students/pdfs/ww_intro.pdf>

I chose this lesson because it gives students a concrete/visual example of just how limited the usable water on Earth is. Although it doesn’t directly tie into the scope and sequence of the 2nd grade Science curriculum, 2nd graders do study Earth materials and while they study land formations, this lesson could fit in as a contrast to studying land. It could also tie into the plant diversity unit where student must study the needs of plants; water being one of them. I also like that this lesson integrates math as well.

Professional development goals

Competency 1e - Designing Coherent Instruction

Competency 2d - Managing Student Behavior

Competency 3b - Using Questioning and Discussion Techniques

Competency 3c - Engaging Students in Learning

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| **Beginning**  **1** | **Developing**  **2** | **Accomplished**  **3** | **Exemplary**  **4** | **Score** |
| Student was unable to complete work. | Student was able to complete work. | Student was able to complete their graph with approximate percentages of usable and un-usable water. | Student was able to complete their work with exact percentages of usable and un-usable water. |  |